AMENDMENTS TO THE SPECIFICATION

Please insert the following new paragraph on page 38, after line 4:

In accordance with at least one embodiment of the present invention, a method for correlating a received sequence to known sequences in a communication system includes providing a plurality of known sequences of values, receiving a sequence of values, and producing at least one reusable addend. The method further includes applying the sequence of values to each known sequence of values of the plurality of known sequences of values to produce respective sets of addends, each set of addends of the respective sets of addends corresponding to a respective known sequence of values of the plurality of known sequences of values and including the at least one reusable addend. The method still further includes determining respective correlation results responsive to the respective sets of addends, each respective correlation result corresponding to a correlation between the sequence of values and a respective known sequence of values of the plurality of known sequences of values, wherein each set of addends of the respective sets of addends have been reduced in number utilizing a common subexpression elimination algorithm.

Please insert the following new paragraph on page 34, after line 20:

In accordance with at least one embodiment of the present invention, a method for correlating a received sequence to a known sequence in a communications system includes receiving a sequence of values, applying the sequence of values to at least one known sequence of values in a correlation equation, the correlation equation definable as including a sum of products of the sequence of values and the at least one known sequence of values, the at least one known sequence of values including a known number of values and at least two identical subsequences of values. The method further includes determining a correlation result of the correlation equation using a sum of products whose number of product addends is less than the known number of the known number of values, wherein the correlation equation has been manipulated such that the number of product addends of the sum of products is less than the known number of the known number of values by eliminating products of one of the at least two identical subsequences of values.

Please insert the following new paragraph on page 41, after line 11:

In accordance with at least one embodiment of the present invention, a method for correlating a received sequence to known sequences in a communications system includes providing a first known sequence of values, providing a second known sequence of values, receiving a sequence of values, and producing a common addend responsive to the sequence of values. The method further includes applying the sequence of values to the first known sequence of values at a plurality of offsets to produce a first set of addends, the first set of addends including the common addend. The method further includes applying the sequence of values to the second known sequence of values at the plurality of offsets to produce a second set of addends, the second set of addends including the common addend. The method still further includes calculating a first correlate based, at least in part, on the first set of addends, and calculating a second correlate based, at least in part, on the second set of addends, wherein the first set of addends and the second set of addends are determined, at least partially, by a common subexpression elimination analysis. In still another embodiment of the present invention, the method further includes wherein the producing of the common addend responsive to the sequence of values further includes adjusting the common addend responsive to an offset value of the plurality of offsets.